AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~Method~~A method for enhancing the measuring accuracy in an antenna array ~~(1)~~comprising a number of antenna elements ~~(2)~~, ~~where~~the method ~~comprises the steps of~~comprising;

~~- receiving analog signals with the antenna array (1) elements, and;~~

~~- producing values for a radiation diagram from the signals;~~

~~- c h a r a c t e r i z e d i n that the method comprises the steps of;~~

a) - receiving analog signals on all antenna elements ~~(2)~~of the antenna array at a first time t₁;

- producing first values for a first radiation diagram from ~~the~~values in the signals from the first time t₁, and;

- finding ~~the~~a maximum point ~~(8)~~for the first values,

b) - switching off or reducing the signal from one interadjacent antenna element ~~(2)~~at a second time (t₂);

- receiving analog signals on all antenna elements ~~(2)~~except from the one switched off or reduced antenna element, and;

- producing second values for a second radiation diagram from ~~the~~values in the signals from the second time (t₂);

c) - using the first values to calculate a first range ~~(9)~~referring to the second radiation diagram, outside which the first range ~~(9)~~grating lobes ~~(7)~~will appear in the second radiation diagram;

- rejecting all values outside the first range ~~(9)~~, and;

- finding ~~the~~a maximum point ~~(8)~~for the second values.

2. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that step~~further comprising repeating act b) and ~~step~~act c) ~~is repeated such that~~whereby ~~the~~an antenna configuration ~~dynamically~~is dynamically altered such that interadjacent antenna elements ~~2~~are switched off or reduced until only the outermost antenna elements ~~2~~remain.

3. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that~~wherein the ~~step~~act of finding the maximum point ~~(8)~~for the values ~~refers to~~comprises calculating at which angle (θ_{max}) the maximum point ~~(8)~~for the main lobe ~~(6)~~ appears in a radiation diagram.

4. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that method comprises the step of~~further comprising converting the analog signals to digital signals by sampling.

5. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that the method comprises the step of~~further comprising producing a radiation diagram from the values.

6. (Currently Amended) ~~Method~~The method according to claim 1, ~~characterized in that~~wherein the antenna elements ~~(2)~~have a relative distance such that no grating lobes ~~(7) will~~ occur when using all elements in a full array.

7. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~comprising:

an antenna array comprising a number of antenna elements;

~~means for enhancing the measuring accuracy in an antenna array (1) comprising a~~
~~number of antenna elements (2), where the antenna array (1) system (23) comprises;~~

[[-]]means ~~(13)~~for receiving analog signals with the antenna array ~~(1)~~elements, and;

[[-]]means ~~(14)~~for producing values for a radiation diagram from the signals,

~~characterized in that antenna array (1) comprises;~~

a)[[–]]means ~~(13)~~for receiving analog signals on all antenna elements ~~(2)~~of the
antenna array at a first time (t_1);

~~–~~[[-]]means ~~(14)~~for producing first values for a first radiation diagram from ~~the~~values in
the signals from the first time (t_1), and;

[[-]]means ~~(15)~~for finding ~~the~~a maximum point ~~(8)~~for the first values,

b)[[–]]means ~~(16)~~for switching off or reducing the signal from one interadjacent
antenna element ~~(2)~~at a second time (t_2);

[[-]]means ~~(13)~~for receiving analog signals on all antenna elements ~~(2)~~except from the
one switched off or reduced antenna element, and;

[[-]]means ~~(14)~~for producing second values for a second radiation diagram from ~~the~~
values in the signals from the second time (t_2);

c)[[-]]means ~~(17)~~for using the first values to calculate a first range ~~(9)~~referring to the
second radiation diagram, outside which first range ~~(9)~~grating lobes ~~(7)~~~~will~~appear in
the second radiation diagram;

[[-]]means ~~(18)~~for rejecting all values outside the first range~~(9)~~, and;

[[-]]means ~~(15)~~for finding ~~the~~a maximum point ~~(8)~~for the second values.

8. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~according to claim 7, ~~c-h-a-r-a-c-t-e-r-i-z-e-d-i-n-that-the-system-comprises~~further comprising means ~~(19)~~for repeating ~~step~~act b) and ~~step~~act c) whereby such that ~~the~~an antenna configuration ~~dynamically~~is dynamically altered such that interadjacent antenna elements ~~(2)~~are switched off or reduced until only the outermost antenna elements ~~(2)~~remain.

9. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~according to claim 7, ~~c-h-a-r-a-c-t-e-r-i-z-e-d-i-n-that-the~~further comprising means ~~(15)~~for finding the maximum point ~~(8)~~for the values comprises means for calculating at what angle (θ_{max}) the maximum point ~~(8)~~for the main lobe ~~(6)~~appears in a radiation diagram.

10. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~according to claim 7, ~~c-h-a-r-a-c-t-e-r-i-z-e-d-i-n-that-the-system-comprises~~further comprising means ~~(21)~~for converting the analog signals to digital signals by sampling.

11. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~according to claim 7, ~~c-h-a-r-a-c-t-e-r-i-z-e-d-i-n-that-the-system-comprises~~further comprising means ~~(22)~~for producing a radiation diagram from the values.

12. (Currently Amended) ~~Antenna~~An antenna array ~~(1)~~system ~~(23)~~according to claim 7, ~~c-h-a-r-a-c-t-e-r-i-z-e-d-i-n-that~~wherein the antenna elements ~~(2)~~have a relative distance ~~(3)~~such that no grating lobes (7) will occur when using all elements in a full array.

13. (New) A computer program product comprising instructions stored on a storage medium which, when executed, perform the acts of:

   receiving analog signals on all antenna elements of an antenna array at a first time t_1;

   producing first values for a first radiation diagram from values in the signals from the first time t_1;

   finding a maximum point for the first values,

   switching off or reducing the signal from one interadjacent antenna element at a second time (t_2);

   receiving analog signals on all antenna elements except from the one switched off or reduced antenna element;

   producing second values for a second radiation diagram from values in the signals from the second time (t_2);

   using the first values to calculate a first range referring to the second radiation diagram, outside which the first range grating lobes will appear in the second radiation diagram;

   rejecting all values outside the first range, and;

   finding a maximum point for the second values.

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